

CLAIMS

1. A quartz piece which has a base and at least two tines extending from the base, wherein

a groove is formed on at least one of the front surface and the rear surface of the tine along the lengthwise direction of the tine, and

a gap from at least one side surface of the tine to the groove is gradually increased toward the base.

2. The quartz piece according to claim 1, wherein the width of the tine is fixed through the whole length of the tine, while the width of the groove is gradually reduced toward the base.

3. The quartz piece according to claim 1, wherein the width of the groove is fixed through the whole length of the groove, while the width of the tine is gradually increased toward the base.

4. An oscillator which has a base and at least two tines extending from the base, in which a groove is formed on at least one of the front surface and the rear surface of the tine along the lengthwise direction of the tine, a groove electrode is formed in the groove, and a side surface electrode is formed on a side surface of the tine,

wherein the width of the tine is fixed through the whole length of the tine, while the width of the groove is gradually reduced toward the base, so that an arrangement area of a connecting electrode is formed.

5. The oscillator according to claim 4, wherein the width of the groove is linearly reduced.

6. An oscillator which has a base and at least two tines extending from the base, in which a groove is formed on at least one of the front surface and the rear surface of the tine along the lengthwise direction of the tine, a groove electrode is formed in the groove, and a side surface electrode is formed on a side surface of the tine,

wherein the width of the groove is fixed through the whole length of the groove, while the width of the tine is gradually increased toward the base.

7. The oscillator according to claim 6, wherein the width of the tine is linearly increased.

8. The oscillator according to claim 4 or 6, wherein the tine and the groove formed in the tine are formed symmetric with respect to the center line of the tine.

9. The oscillator according to claim 4 or 6, wherein the oscillator is formed with a tuning fork type crystal oscillating piece.

10. An oscillator which has a base and at least two tines extended from the base, in which a groove is formed on at least one of the front surface and the rear surface of the tine along the lengthwise direction of the tine, a groove electrode is formed in the groove, and a side surface electrode is formed on a side surface of the tine,

wherein the width of the tine is fixed through the whole length of the tine, while the width of the groove is gradually

reduced toward the base, so that an arrangement area of a connecting electrode is formed,

the width of the groove is linearly reduced,

the tine and the groove are formed symmetric with respect to the center line of the tine, and

the oscillator is formed with a tuning fork type crystal oscillating piece.